STATE OF NEW HAMPSHIRE
INTER-DEPARTMENT COMMUNICATION

DATE: March 3, 2016

FROM: Matt Urban
Wetlands Program Manager

AT (OFFICE): Department of Transportation
Bureau of Environment

SUBJECT Dredge & Fill Application
Acworth, 40750

TO Gino Infascelli, Public Works Permitting Officer
New Hampshire Wetlands Bureau
29 Hazen Drive, P.O. Box 95
Concord, NH 03302-0095

Forwarded herewith is the application package prepared by NH DOT Bureau of Bridge Maintenance for the subject Major impact project. This project is classified as Major per Env-Wt 303.02(p). The project is located on NH Route 123A adjacent to the Cold River. The existing structures consist of two concrete slab bridges that have 14'-0" spans and are 26'-9" wide. The structures are connected by a retaining wall. The Cold River is flowing against this retaining wall and has begun to cause undermining. Proposed work consists of the following: place sandbag cofferdams, install toe walls, face the wingwall and place riprap.

This project was reviewed at the Natural Resource Agency Coordination Meeting on October 21, 2015 and on February 17, 2016. This minutes from those meeting can be found on the Departments website via the following link:
http://www.nh.gov/dot/org/projectdevelopment/environment/units/project-management/nracrmeetings.htm

This project does not require mitigation.

A payment voucher has been processed for this application (Voucher #430650) in the amount of $1,669.20.

The lead people to contact for this project are Steve Johnson, Assistant Administrator, Bureau of Bridge Maintenance (271-3668 or sjohnson@dot.state.nh.us) or Matt Urban, Wetlands Program Manager, Bureau of Environment (271-3226 or murban@dot.state.nh.us).

If and when this application meets with the approval of the Bureau, please send the permit directly to Matt Urban, Wetlands Program Manager, Bureau of Environment.

MRU:mru
Enclosures
cc:
BOE Original
Town of Acworth (4 copies via certified mail)
Carol Henderson, NH Fish & Game
Edna Feighner, NH Division of Historic Resources (NHDOT Cultural Resource Review Within)
Maria Tur, US Fish & Wildlife
Mark Kern, US Environmental Protection Agency
Michael Hicks, US Army Corp of Engineers
Cold River Local Advisory Committee (via certified mail)

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THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF ENVIRONMENTAL SERVICES
LAND RESOURCES MANAGEMENT
WETLANDS BUREAU
29 Hazen Drive, PO Box 95, Concord, NH 03302-0095
Phone: (603) 271-2147 Fax: (603) 271-6588
http://des.nh.gov/organization/divisions/water/wetlands

PERMIT APPLICATION

Administrative Use Only	Administrative Use Only	Administrative Use Only	File No.:
			Check No.:
			Amount:
			Initials:

1. REVIEW TIME:
Indicate your Review Time below. Refer to Guidance Document A for instructions.

☒ Standard Review (Minimum, Minor or Major Impact) ☐ Expedited Review (Minimum Impact)

2. PROJECT LOCATION:
Separate applications must be filed with each municipality that jurisdictional impacts will occur in.

ADDRESS: **Rte. 123A over Slater Slide and Dry Brook** TOWN/CITY: **Acworth**

TAX MAP: BLOCK: LOT: UNIT:

USGS TOPO MAP WATERBODY NAME: **Slater Slide, Dry Brook, Cold River** ☐ NA STREAM WATERSHED SIZE: **42.9 mi2** ☐ NA

LOCATION COORDINATES (If known): **043`11'22.07" 072`17'51.21"** ☒ Latitude/Longitude
☐ UTM ☐ State Plane

3. PROJECT DESCRIPTION:
Provide a brief description of the project outlining the scope of work. Attach additional sheets as needed to provide a detailed explanation of your project. DO NOT reply "See Attached" in the space provided below.

Rehabilitate the structures that carry Rte. 123A over Slater Slide and Dry Brook (104/063 & 104/064). The existing structures consist of two concrete slab bridges that have 14'-0" spans and are 26'-9" wide. The structures are connected by a retaining wall. The Cold River is flowing against this retaining wall and has begun to cause undermining. Proposed work consists of the following: place sandbag cofferdams, install toe walls, and placing riprap.

4. RELATED PERMITS, ENFORCEMENT, EMERGENCY AUTHORIZATION, SHORELAND, ALTERATION OF TERRAIN, ETC...

5. NATURAL HERITAGE BUREAU & DESIGNATED RIVERS:
See the Instructions & Required Attachments document for instructions to complete a & b below.

a. Natural Heritage Bureau File ID: NHB 15 - 3290 .

b. ☒ Designated River the project is in ¼ miles of: Cold River ; and
date a copy of the application was sent to Local River Advisory Committee: Month: 3 Day: 3 Year: 2016
NA

6. APPLICANT INFORMATION (Desired permit holder)

LAST NAME, FIRST NAME, M.I.: **Johnson, Steve W**			
TRUST / COMPANY NAME: **NH Dept. of Transportation**	MAILING ADDRESS: **7 Hazen Drive**		
TOWN/CITY: **Concord**		STATE: **NH**	ZIP CODE: **03302**
EMAIL or FAX: **sjohnson@dot.state.nh.us**	PHONE: **603 271 3667**		

ELECTRONIC COMMUNICATION: By initialing here: SJ, I hereby authorize DES to communicate all matters relative to this application electronically

7. PROPERTY OWNER INFORMATION (If different than applicant)

LAST NAME, FIRST NAME, M.I.:			
TRUST / COMPANY NAME:	MAILING ADDRESS:		
TOWN/CITY:		STATE:	ZIP CODE:
EMAIL or FAX:	PHONE:		

ELECTRONIC COMMUNICATION: By initialing here _____, I hereby authorize DES to communicate all matters relative to this application electronically

8. AUTHORIZED AGENT INFORMATION

LAST NAME, FIRST NAME, M.I.: **Weatherbee, Anthony N**	COMPANY NAME: **NH Dept. of Transportation**		
MAILING ADDRESS: **7 Hazen Drive**			
TOWN/CITY: **Concord**		STATE: **NH**	ZIP CODE: **03302**
EMAIL or FAX: **aweatherbee@dot.state.nh.us**	PHONE: **603-271-3667**		

ELECTRONIC COMMUNICATION: By initialing here _____, I hereby authorize DES to communicate all matters relative to this application electronically

9. PROPERTY OWNER SIGNATURE:

See the Instructions & Required Attachments document for clarification of the below statements

By signing the application, I am certifying that:

1. I authorize the applicant and/or agent indicated on this form to act in my behalf in the processing of this application, and to furnish upon request, supplemental information in support of this permit application.
2. I have reviewed and submitted information & attachments outlined in the Instructions and Required Attachment document.
3. All abutters have been identified in accordance with RSA 482-A:3, I and Env-Wt 100-900.
4. I have read and provided the required information outlined in Env-Wt 302.04 for the applicable project type.
5. I have read and understand Env-Wt 302.03 and have chosen the least impacting alternative.
6. Any structure that I am proposing to repair/replace was either previously permitted by the Wetlands Bureau or would be considered grandfathered per Env-Wt 101.47.
7. I have submitted a copy of the application materials to the NH State Historic Preservation Officer.
8. I authorize DES and the municipal conservation commission to inspect the site of the proposed project.
9. I have reviewed the information being submitted and that to the best of my knowledge the information is true and accurate.
10. I understand that the willful submission of falsified or misrepresented information to the New Hampshire Department of Environmental Services is a criminal act, which may result in legal action.
11. I am aware that the work I am proposing may require additional state, local or federal permits which I am responsible for obtaining.
12. The mailing addresses I have provided are up to date and appropriate for receipt of DES correspondence. DES will not forward returned mail.

Property Owner Signature	Print name legibly	Date
Steve W Johnson	STEVE W JOHNSON	2/07/2016

MUNICIPAL SIGNATURES

10. CONSERVATION COMMISSION SIGNATURE

The signature below certifies that the municipal conservation commission has reviewed this application, and:

1. Waives its right to intervene per RSA 482-A:11;
2. Believes that the application and submitted plans accurately represent the proposed project; and
3. Has no objection to permitting the proposed work.

⇨ Authorized Commission Signature	Print name legibly	Date

DIRECTIONS FOR CONSERVATION COMMISSION

1. Expedited review ONLY requires that the conservation commission's signature is obtained in the space above.
2. The Conservation Commission signature should be obtained prior to the submittal of the original application and four copies to the town/city clerk for mailing to the DES.
3. The Conservation Commission may refuse to sign. If the Conservation Commission does not sign this statement for any reason, the application is not eligible for expedited review and the application will reviewed in the standard review time frame.

11. TOWN / CITY CLERK SIGNATURE

As required by Chapter 482-A:3 (amended 1991), I hereby certify that the applicant has filed five application forms, five detailed plans, and five USGS location maps with the town/city indicated below and I have received and retained certified postal receipts (or copies) for all abutters identified by the applicant.

⇨ Town/City Clerk Signature	Print name legibly	Town/City	Date

DIRECTIONS FOR TOWN/CITY CLERK:

Per RSA 482-A:3,I(d):

1. For applications where "Expedited Review" is checked on page 1, accept the application for mailing only if the Conservation Commission signature has been sought;
2. Collect the postal receipts demonstrating that all abutters and the Local Advisory Committee were sent proper notice;
3. Collect any administrative fees, not to exceed $10 plus the cost of postage by certified mail (RSA 482-A:3,I).
4. IMMEDIATELY sign the original application and four copies in the signature space provided above;
5. Retain one copy of the application form, one complete set of attachments and the postal receipts demonstrating that all abutters and the Local River Advisory Committee were notified and make them reasonably accessible to the public;
6. IMMEDIATELY distribute a copy of the application with one complete set of attachments to each of the following bodies: the municipal Conservation Commission, the local governing body (Board of Selectmen or Town/City Council), and the Planning Board in accordance with RSA 482-A:3, I; and
7. IMMEDIATELY send the ORIGINAL application form, one complete set of attachments and filing fee, by CERTIFIED MAIL to the NHDES Wetlands Bureau at the address indicated on page 1 of this application. (DO NOT HOLD FOR CONSERVATION COMMISSION SIGNATURE).

12. IMPACT AREA:

For each jurisdictional area that will be/has been impacted, provide square feet and, if applicable, linear feet of impact

Permanent: impacts that will remain after the project is complete.

Temporary: impacts not intended to remain (and will be restored to pre-construction conditions) after the project is complete.

After-the-fact (ATF): work completed prior to receipt of this application by DES. Check box to indicate ATF.

JURISDICTIONAL AREA	PERMANENT Sq. Ft. / Lin. Ft.		TEMPORARY Sq. Ft. / Lin. Ft.	
Forested wetland		☐ ATF		☐ ATF
Scrub-shrub wetland		☐ ATF		☐ ATF
Emergent wetland		☐ ATF		☐ ATF
Wet meadow		☐ ATF		☐ ATF
Intermittent stream		☐ ATF		☐ ATF
Perennial Stream / River	1186 / 116	☐ ATF	6002 / 174	☐ ATF
Lake / Pond	/	☐ ATF	/	☐ ATF
Bank - Intermittent stream	/	☐ ATF	/	☐ ATF
Bank - Perennial stream / River	352 / 58	☐ ATF	806 / 63	☐ ATF
Bank - Lake / Pond	/	☐ ATF	/	☐ ATF
Tidal water	/	☐ ATF	/	☐ ATF
Salt marsh		☐ ATF		☐ ATF
Sand dune		☐ ATF		☐ ATF
Prime wetland		☐ ATF		☐ ATF
Prime wetland buffer		☐ ATF		☐ ATF
Undeveloped Tidal Buffer Zone (TBZ)		☐ ATF		☐ ATF
Previously-developed upland in TBZ		☐ ATF		☐ ATF
Docking - Lake / Pond		☐ ATF		☐ ATF
Docking - River		☐ ATF		☐ ATF
Docking - Tidal Water		☐ ATF		☐ ATF
TOTAL	1538 / 174		6808 / 237	

13. APPLICATION FEE: See the Instructions & Required Attachments document for further instruction

☐ Minimum Impact Fee: Flat fee of $ 200

☒ Minor or Major Impact Fee: Calculate using the below table below

Permanent and Temporary (non-docking)	**8346** sq. ft.	X	$0.20 =	$ **1669.20**
Temporary (seasonal) docking structure:	sq. ft.	X	$1.00 =	$
Permanent docking structure:	sq. ft.	X	$2.00 =	$
Projects proposing shoreline structures (including docks) add $200			=	$
			Total =	$
The Application Fee is the above calculated Total or $200, whichever is greater			=	$ **1669.20**

CONSTRUCTION SEQUENCE

1. 3' sandbags will be placed in the Cold River. A track mounted mini excavator will access the cobble gravel point bar by driving on top of the 3' sandbags. Silt booms will be setup around the point bar and the mini excavator will begin to dig a low flow channel in the point bar to direct flow away from the structure. The material will remain on a different portion of the point bar while the project is taking place. All flow will be maintained through natural sections of channel.

2. Once the channel has been completed, the mini excavator will exit the Cold River. Additional sandbags will be installed and water will be diverted into the newly dug channel.

3. The concrete retaining wall will be faced.

4. A toewall will be installed on the retaining wall and wingwall.

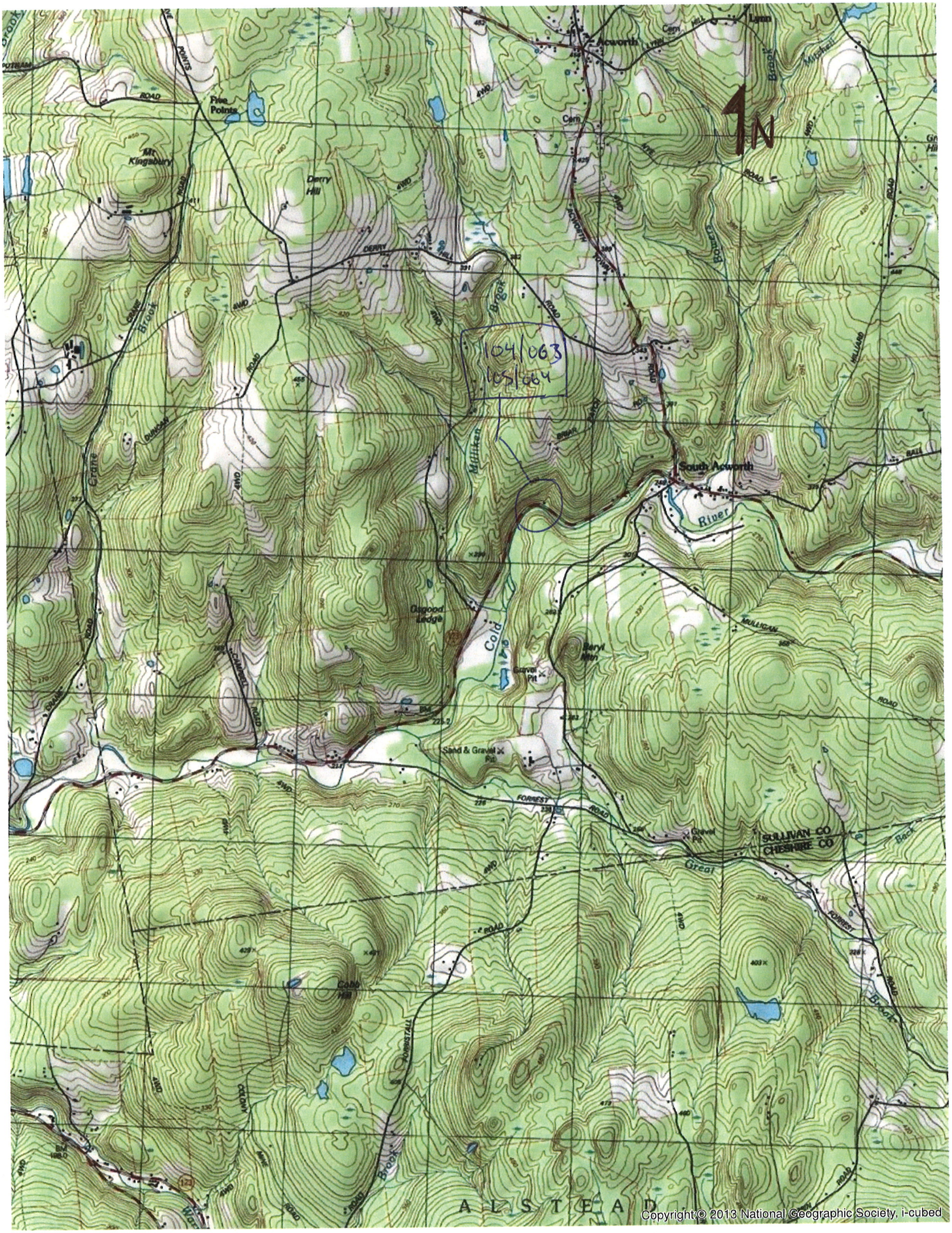
5. Riprap will be installed in front of the toewall and along the bank.

6. Material stockpiled on the point bar will be used to chink in the added riprap in front of the toewall to simulate natural stream material.

7. All dewatering devices will be removed and the site will be restored to its original quality.

Note:

Project will use and maintain DES Best Management Practices at all stages of construction.



Acworth
Lynn
Five Points
Mt Kingsbury
Derry Hill
Crane Brook
Milliken Brook
South Acworth
River
Cold
Osgood Ledge
Beryl Mtn
Gravel Pit
Sand & Gravel Pit
FORREST ROAD
MULLIGAN
SULLIVAN CO
CHESHIRE CO
Great
Cobb Hill
Brook
A L S T E A D
104/063
105/064
N
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THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF ENVIRONMENTAL SERVICES
LAND RESOURCES MANAGEMENT
WETLANDS BUREAU
29 Hazen Drive. PO Box 95, Concord, NH 03302-0095
Phone: (603) 271-2147 Fax: (603) 271-6588
http://des.nh.gov/organization/divisions/water/wetlands/index.htm
Permit Application Status: http://des.nh.gov/onestop/index.htm

PERMIT APPLICATION – ATTACHMENT A
MINOR & MAJOR 20 QUESTIONS

Env-Wt 302.04 Requirements for Application Evaluation – For any major or minor project, the applicant shall demonstrate by plan and example that the following factors have been considered in the project's design in assessing the impact of the proposed project to areas and environments under the department's jurisdiction. Respond with statements demonstrating:

1. The need for the proposed impact.

There are numerous cracks and spalls in the retaining wall. It is also undermined 24'+/- in length with up to 2' of penetration. The retaining wall needs to be faced to repair the spalling and a toewall is required to provide stabilization. Riprap is required to protect the toewall from becoming undermined and to stabilize the banks. It is necessary to impact jurisdictional areas to provide for the repairs. The impacts are for the concrete facing and toewall, the riprap, and for temporary construction access. Many of the proposed temporary impacts are due to dewatering the work zone within the natural channel. If the structure is not rehabilitated, it will eventually be load posted or closed.

2. That the alternative proposed by the applicant is the one with the least impact to the wetlands or surface waters on site.

The alternatives considered are as follows:

Shift Route 123A away from the Cold River: Shifting the roadway away from the Cold River could eliminate the retaining wall; however, due to the location on the outside bend of the river, substantial riprap would be required to prevent the river migrating toward the relocated roadway. Due the steep hill up from the roadway on the north side (away from the river), a substantial retaining wall and an increase in the roadway grade would be required. This would extend the limits of the project well beyond the current wall location and would also require replacement of the two bridges that cross the ephemeral streams (Dry Brook and Slater Slide). Many of the same environmental impacts would be required for this alternative, compared to the preferred alternative, in order to remove the existing wall, existing bridge structures, and to install the bank armoring. A preliminary estimated cost for roadway realignment, ROW, two new bridges and removal of existing structures is estimated at $2,000,000. Due to the cost and the limited reduction in environmental impacts, this alternative was not chosen.

Install toewall and riprap: This is the chosen alternative. The Cold River will remain where it is, and a toewall and riprap will be installed. Impacts for a toewall and riprap are relatively small when compared to moving the location of the river. This is the most cost-effective and lowest impact solution to guard the structure against a sudden failure.

In the October 21, 2015 Natural Resource Agency Coordination Meeting Gino Infascelli asked if using larger sandbags would make dewatering easier. This suggestion is being incorporated into the design by temporary placing 3' sandbags to assist with water diversion and equipment access. In the February 17, 2016 Natural Resources Agency Coordination Meeting, it was asked if material from the point bar could be used to chink in the riprap to be installed at the retaining wall. This was said to be acceptable.

3. The type and classification of the wetlands involved.

R2UB1: Riverine, intermittent, streambed, rubble, cobble gravel

Bank

4. The relationship of the proposed wetlands to be impacted relative to nearby wetlands and surface waters.

The proposed impacts are located directly on the Cold River.

5. The rarity of the wetland, surface water, sand dunes, or tidal buffer zone area.

The Cold River is a Designated River with a classification of Rural.

6. The surface area of the wetlands that will be impacted.

7188ft^2 Riverine (6002ft^2 temporary, 1186ft^2 permanent)
1158ft^2 Bank (806ft^2 temporary, 352ft^2 permanent)

7. The impact on plants, fish, and wildlife, but not limited to:
   a. Rare, special concern species;
   b. State and federally listed threatened and endangered species;
   c. Species at the extremities of their ranges;
   d. Migratory fish and wildlife;
   e. Exemplary natural communities identified by the DRED-NHB; and
   f. Vernal pools.

a) No rare or special concern species were identified within the proposed project area via the NHB search.

b) There were no State or Federally listed threatened or endangered species identified by NHB within the project limits. However, the USF&WS IPaC search identified the Northern Long-Eared Bat (NLEB) on the Project's Official Species List as having potential to be present in the project area. This project does require tree clearing. The Department has determined that the project will not result in any prohibited take as described in the final 4(d) rule that will be effective February 16th. The Department intends to employ the optional framework to streamline section 7 consultation in accordance with the USFWS non-jeopardy Intra-Service Programmatic Biological Opinion on their action of issuing the 4(d) rule for the NLEB, provided that ACOE elects to adopt this process. The IPaC also identified the Northeastern bulrush. Northeastern bulrush's suitable habitat consists of wetlands/slow moving ditches. It's unlikely that bulrush would be located in the fast moving waters of the Cold River. No species were identified during numerous field visits.

c) There are no species known to be at the extremities of their ranges located in Tannery Brook or the surrounding area.

d) This project will take place outside of fish spawning season; therefore migratory fish and other aquatic life will not be impacted during construction. After construction the site will be similar to its existing condition.

e) The Department has coordinated with DRED and the results of the NHB review revealed no records in this area.

f) There were no vernal pools identified and/or delineated in the project area.

8. The impact of the proposed project on public commerce, navigation and recreation.

During construction, access to the nearby residents and/or commercial businesses will be maintained at all times. Access will be maintained by alternating traffic with a one lane closure. Cold River is non-navigable waters which makes them non-conducive to boaters. There are no recreational areas that have been identified in this area except for the possibility for fishing. During construction fishing activities from the banks of the river will need to occur outside of the construction work zone. When construction is completed, the project as proposed will be a benefit to the public commerce.

9. The extent to which a project interferes with the aesthetic interests of the general public. For example, where an applicant proposes the construction of a retaining wall on the bank of a lake, the applicant shall be required to indicate the type of material to be used and the effect of the construction of the wall on the view of other users of the lake.

The project will not significantly interfere with the aesthetic interests of the general public. The proposed improvements will be more pleasing to the eye than the substructure in poor condition.

10. The extent to which a project interferes with or obstructs public rights of passage or access. For example, where the applicant proposes to construct a dock in a narrow channel, the applicant shall be required to document the extent to

which the dock would block or interfere with the passage through this area.

The project will not interfere with or obstruct public rights of passage or access. During construction at least one lane of alternating traffic will be maintained at all times. This will ensure access to all nearby businesses and residential homes in this area. Upon completion of this project the bridge will be reopened to two way traffic.

11. The impact upon the abutting pursuant to RSA 482-A:11, II. For example, if an applicant is proposing to riprap a stream, the applicant shall be required to document the effect of such work on upstream and downstream abutting properties.

The project is expected to have a positive impact on abutting properties. The rehabilitated structure will better serve the abutting properties if they need to travel on the road. The toewall and riprap that are being installed will help prevent a washout of the structure which will better protect abutting properties.

The project as proposed will not alter the chance of flooding on abutting properties.

12. The benefit of a project to the health, safety, and well-being of the general public.

The project will provide a safer, longer lasting structure and roadway. If the structure is not rehabilitated, the bridge will eventually be load posted or closed. Keeping the roadway open benefits commerce, trade, emergency access, etc, for the general public.

13. The impact of a proposed project on quantity or quality of surface and ground water. For example, where an applicant proposes to fill wetlands the applicant shall be required to document the impact of the proposed fill on the amount of drainage entering the site versus the amount of drainage exiting the site and difference in the quality of water entering and exiting the site.

The surface water currently runs off the bridge at the curb lines, to the wingwalls, and then off the structure. Upon completion of the project surface will drain water in the same manner. This will have no adverse effects on the quality or quantity of surface and ground water. Best Management Practices will be used to prevent any adverse effect to water quality during construction.

14. The potential of a proposed project to cause or increase flooding, erosion, or sedimentation.

Flooding: Repairing the undermining has a negligible effect on the hydraulic capacity of the structure. High flows will not be restricted, and low flows will be maintained as a result of this project.

Erosion: The toewall and riprap placed at the substructure will help prevent erosion and preserve the natural alignment and gradient of the stream channel.

Sedimentation: Nothing that will be a barrier to sediment transport will be installed in this project.

15. The extent to which a project that is located in surface waters reflects or redirects current or wave energy which might cause damage or hazards.

Surface waters will not be reflected or redirected as a result of this project. Cold River does not have enough surface water for wave energy to be an issue.

16. The cumulative impact that would result if all parties owning or abutting a portion of the affected wetland or wetland complex were also permitted alternations to the wetland proportional to the extent of their property rights. For example, an applicant who owns only a portion of a wetland shall document the applicant's percentage ownership of that wetland and the percentage of that ownership that would be impacted.

The work consists of the repair of an existing bridge structure. There are no similar structures in the vicinity owned by other parties that would require repair.

17. The impact of the proposed project on the values and functions of the total wetland or wetland complex.

The value of the wetland as a habitat for living organisms will be unchanged. The project will be constructed outside the fish spawning season. A function of Cold River is to carry water from a higher elevation to a lower elevation. This project will not interfere with that function.

13. The impact upon the value of the sites included in the latest published edition of the National Register of Natural Landmarks, or sites eligible for such publication.

This project is not located in or near any Natural Landmarks listed on the National Register.

19. The impact upon the value of areas named in acts of congress or presidential proclamations as national rivers, national wilderness areas, national lakeshores, and such areas as may be established under federal, state, or municipal laws for similar and related purposes such as estuarine and marine sanctuaries.

The Cold River is a Designated River. There are no other areas named in acts of congress or presidential proclamations as national rivers, national wildness areas, or national lakeshores that will be impacted as a result of this project.

20. The degree to which a project redirects water from one watershed to another.

The project as proposed will not redirect water from one watershed to another.

Additional comments

US Army Corps of Engineers®
New England District

New Hampshire Programmatic General Permit (PGP)
Appendix B - Corps Secondary Impacts Checklist
(for inland wetland/waterway fill projects in New Hampshire)

1. Attach any explanations to this checklist. Lack of information could delay a Corps permit determination.
2. All references to "work" include all work associated with the project construction and operation. Work includes filling, clearing, flooding, draining, excavation, dozing, stumping, etc.
3. See PGP, GC 5, regarding single and complete projects.
4. Contact the Corps at (978) 318-8832 with any questions.

1. Impaired Waters	Yes	No
1.1 Will any work occur within 1 mile upstream in the watershed of an impaired water? See http://des.nh.gov/organization/divisions/water/wmb/section401/impaired_waters.htm to determine if there is an impaired water in the vicinity of your work area.*		X
2. Wetlands	Yes	No
2.1 Are there are streams, brooks, rivers, ponds, or lakes within 200 feet of any proposed work?	X	
2.2 Are there proposed impacts to SAS, shellfish beds, special wetlands and vernal pools (see PGP, GC 26 and Appendix A)? Applicants may obtain information from the NH Department of Resources and Economic Development Natural Heritage Bureau (NHB) website, www.nhnaturalheritage.org, specifically the book Natural Community Systems of New Hampshire.		X
2.3 If wetland crossings are proposed, are they adequately designed to maintain hydrology, sediment transport & wildlife passage?	X	
2.4 Would the project remove part or all of a riparian buffer? (Riparian buffers are lands adjacent to streams where vegetation is strongly influenced by the presence of water. They are often thin lines of vegetation containing native grasses, flowers, shrubs and/or trees that line the stream banks. They are also called vegetated buffer zones.)		X
2.5 The overall project site is more than 40 acres.		X
2.6 What is the size of the existing impervious surface area?	5568 ft²	
2.7 What is the size of the proposed impervious surface area?	5568 ft²	
2.8 What is the % of the impervious area (new and existing) to the overall project site?	0%	
3. Wildlife	Yes	No
3.1 Has the NHB determined that there are known occurrences of rare species, exemplary natural communities, Federal and State threatened and endangered species and habitat, in the vicinity of the proposed project? (All projects require a NHB determination.)		X
3.2 Would work occur in any area identified as either "Highest Ranked Habitat in N.H." or "Highest Ranked Habitat in Ecological Region"? (These areas are colored magenta and green, respectively, on NH Fish and Game's map, "2010 Highest Ranked Wildlife Habitat by Ecological Condition.") Map information can be found at: • PDF: www.wildlife.state.nh.us/Wildlife/Wildlife_Plan/highest_ranking_habitat.htm. • Data Mapper: www.granit.unh.edu. • GIS: www.granit.unh.edu/data/downloadfreedata/category/databycategory.html.	X	

3.3 Would the project impact more than 20 acres of an undeveloped land block (upland, wetland/waterway) on the entire project site and/or on an adjoining property(s)?		X
3.4 Does the project propose more than a 10-lot residential subdivision, or a commercial or industrial development?		X
3.5 Are stream crossings designed in accordance with the PGP, GC 21?	X	
4. Flooding/Floodplain Values	Yes	No
4.1 Is the proposed project within the 100-year floodplain of an adjacent river or stream?	X	
4.2 If 4.1 is yes, will compensatory flood storage be provided if the project results in a loss of flood storage?		N/A
5. Historic/Archaeological Resources		
For a minor or major impact project - a copy of the Request for Project Review (RPR) Form (www.nh.gov/nhdhr/review) shall be sent to the NH Division of Historical Resources as required on Page 5 of the PGP**		N/A

*Although this checklist utilizes state information, its submittal to the Corps is a Federal requirement.

** If project is not within Federal jurisdiction, coordination with NH DHR is not required under Federal law..

THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION
BUREAU OF BRIDGE MAINTENANCE
7 Hazen Drive, PO Box 483, Concord, NH 03302-0095
Phone: (603) 271-3667 Fax: (603) 271-1588

WETLANDS PERMIT APPLICATION – ATTACHMENT C
Stream Crossing Requirements & Information

Env-Wt 904.09(a) – If the applicant believes that installing the structure specified in the applicable rule is not practicable then the applicant may propose an alternative design in accordance with this section.
1. Please explain why the structure specified in the applicable rule is not practicable (Env-Wt 101.69 defines practicable as "*available and capable of being done after taking into consideration costs, existing technology, and logistics in light of overall project purposes*") *(question 2, Attachment A, Minor and Major 20 Questions)*;
Cold River has a drainage area of 42.9 square miles which qualifies this river as a Tier 3 Crossing. The two structures that are being rehabilitated span Slater Slide and Dry Brook. The structures are adequately sized for the two ephemeral streams according to the stream crossing rules. The structures do not currently span the Cold River and installing a replacement structure and realigning the roadway is beyond the scope of the project.
2. Please explain how the proposed alternative meets the specific design criteria for Tier 2 and Tier 3 crossings to the *maximum extent practicable*. Env-Wt 904.05 Design Criteria for Tier 2 and Tier 3 Stream Crossings – New Tier 2 stream crossings, replacement Tier 2 crossings that do not meet the requirements of Env-Wt 904.07, and new and replacement Tier 3 crossings shall be designed and constructed...
...In accordance with the NH Stream Crossing Guidelines:
The NH Stream Crossing Guidelines do not mention maintenance to a structure in a Tier 3 watershed. **The proposed structure will match the existing slope and alignment.** **The bottoms of the existing structures are currently natural bottoms and that will not be changed as a result of this project.** **Wildlife passage will not be changed as a result of this project.** **The proposed structure will maintain the flow depths found in the existing structure.** **The proposed structure is expected to be able to pass the 100 year flood event.**
...With bed forms and streambed characteristics necessary to cause water depths and velocities within the crossing structure at a variety of flows to be comparable to those found in the natural channel upstream and downstream of the stream crossing:
Water depths and velocities within the crossing at a variety of flows will be comparable to the existing depths and velocities. These flows are comparable to those found in the natural channel upstream and downstream of the stream crossing.
...To provide a vegetated bank on both sides of the watercourse to allow for wildlife passage:
It is not possible to provide vegetated banks on both sides of the watercourse below the roadway, regardless of the type of structure installed. Wildlife passage will not be changed as a result of this project.

...To preserve the natural alignment and gradient of the stream channel, so as to accommodate natural flow regimes and the function of the natural floodplain *(questions 14 and 15, Attachment A, Minor and Major 20 Questions)*;
Installing a toewall and riprap will have a negligible effect on the hydraulic capacity of the structure. High flows will not be restricted, and low flows will be maintained as a result of this project. High flows will not be restricted, and low flows will be maintained as a result of this project. The existing crossing has no history of flooding or overtopping of the banks of the stream.
...To accommodate the 100-year frequency flood and to ensure that there is no increase in flood stages on abutting properties *(questions 11 and 14, Attachment A, Minor and Major 20 Questions)*:
The project as proposed will not alter the chance of flooding on abutting properties. **The proposed bridge is expected to pass the 100 year flood event.**
...To simulate a natural stream channel:
The natural stream bottom will not be changed as a result of this project and therefore will continue to simulate a natural stream channel.
...So as not to alter sediment transport competence *(question 14, Attachment A, Minor and Major 20 Questions)*:
Nothing that will be a barrier to sediment transport will be installed in this project.
Env-Wt 904.09(c)(3) – The alternative design must meet the general design criteria specified in Env-Wt 904.01:
(a) Not be a barrier to sediment transport *(question 14, Attachment A, Minor and Major 20 Questions)*;
Nothing that will be a barrier to sediment transport will be installed in this project.
(b) Prevent the restriction of high flows and maintain existing low flows *(question 14, Attachment A, Minor and Major 20 Questions)*;
Installing a toewall and riprap will have a negligible effect on the hydraulic capacity of the structure. High flows will not be restricted, and low flows will be maintained as a result of this project.
(c) Not obstruct or otherwise substantially disrupt the movement of aquatic life indigenous to the water body beyond the actual duration of construction *(question 7, Attachment A, Minor and Major 20 Questions)*;
The movement of aquatic life indigenous to the water body will not be obstructed or otherwise substantially disrupted beyond the actual duration of construction.
(d) Not cause an increase in the frequency of flooding or overtopping of banks *(question 14, Attachment A, Minor and Major 20 Questions)*;
Installing a toewall and riprap will have no effect on the hydraulic capacity of the structure. The proposed structure has been checked at a variety of flows and the structure will still pass the 100 year storm event. High flows will not be restricted, and low flows will be maintained as a result of this project. The existing crossing has no history of flooding or overtopping of the banks of the stream.
(e) Preserve watercourse connectivity where it currently exists *(question 15, Attachment A, Minor and Major 20 Questions)*;
Connectivity will remain unchanged with the proposed structure and will not be worsened.

(f) Restore watercourse connectivity where...
...connectivity previously was disrupted as a result of human activity(ies) *(question 15, Attachment A, Minor and Major 20 Questions)*;
Connectivity will remain unchanged with the proposed structure and will not be worsened.
...restoration of connectivity will benefit aquatic life upstream or downstream of the crossing *(question 15, Attachment A, Minor and Major 20 Questions)*;
Aquatic life upstream and downstream will not be affected as a result of this project.
(g) Not cause erosion, aggradation, or scouring upstream or downstream of the crossing *(question 14, Attachment A, Minor and Major 20 Questions)*;
Erosion: The toewall and riprap placed at the abutment and wingwalls of the structure will help prevent erosion and preserve the natural alignment and gradient of the stream channel. **Sedimentation: Nothing that will be a barrier to sediment transport will be installed in this project.**
(h) Not cause water quality degradation *(question 13, Attachment A, Minor and Major 20 Questions)*.
The project as proposed will not impact the quantity or quality of surface and/or groundwater at this site. Best Management Practices will be used to prevent any adverse effect to water quality during construction.

Hydraulic Data

Drainage Area – 42.9 sq mi

Q 100 = 3910 cfs

The project as proposed will not significantly change the hydraulics at the structure location.

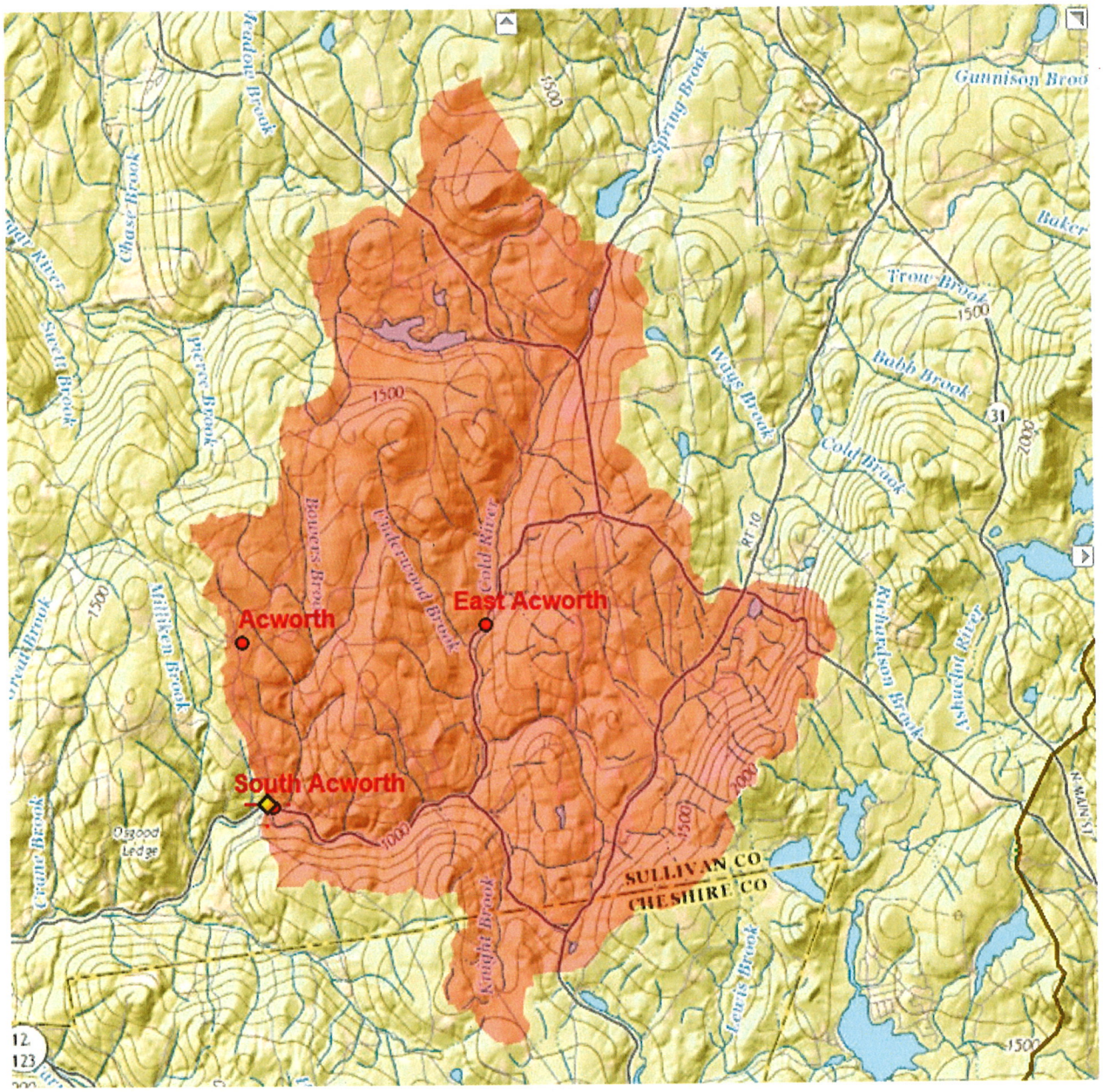


Figure 9: Watershed

PART Env-Wt 404 CRITERIA FOR SHORELINE STABILIZATION

The rehabilitation of the structures that carry NH Rte. 123A over Slater Slide and Dry Brook proposes the placement of stone fill within areas under the jurisdiction of the NH Wetlands Bureau and the US Army Corps of Engineers. The stone fill will be located in the channel and along the bank of the proposed structure as shown on the plans.

Pursuant to PART Wt 404 Criteria for Shoreline Stabilization, the following addresses each codified section of the Administrative Rules:

Wt 404.01 Least Intrusive Method

The riverbank stabilization treatment proposed is the least intrusive construction method necessary to minimize the disruption to the existing shorelines. The stone treatment can be reasonably constructed utilizing general highway construction methods.

Wt 404.02 Diversion of Water

Proposed roadway drainage will allow storm water run-off to be diverted so that it will flow over vegetated areas, insofar as possible, prior to entering Cold River. This will minimize erosion of the shoreline.

Wt 404.03 Vegetative Stabilization

Natural vegetation will be left undisturbed to the maximum extent possible. The only locations being disturbed are the impacted areas on the plan for construction. All newly developed slopes and disturbed areas will have humus and seed applied for turf establishment, which will help stabilize the project area.

Wt 404.04 Rip-Rap

(a) Stone fill, as proposed, is shown on the attached plans to protect the channel and bank as necessary. Stable embankments are necessary to maintain the structural integrity of the bridge during all flow conditions.

(b) (1-5) The minimum and maximum stone size, the gradation, cross sections of the stone fill, proposed location, and other details have been provided on the attached plans. Bedding for the stone fill will consist of natural ground excavated to the proposed underside of the stone fill.

(b) (6) Enclosed are plan sheets to sufficiently indicate the relationship of the project to fixed points of reference, abutting properties, and features of the natural shoreline.

(b) (7) Stone fill is recommended for the limits shown on the attached plans to protect the banks from erosion during flood flows, from scour during all flows, and slopes greater than 2:1 have difficulty supporting vegetation.

(c) This project is not located adjacent to a great pond or water body where the state holds fee simple ownership.

(d) Stone fill is proposed to extend down to and adequately keyed into the channel bottom to prevent possible undermining of the slope.

(e) The enclosed plan has been stamped by a professional engineer.

New Hampshire Natural Heritage Bureau

To: Tony Weatherbee
7 Hazen Drive
Concord, NH 03302

Date: 10/12/2015

From: NH Natural Heritage Bureau

Re: Review by NH Natural Heritage Bureau of request dated 10/12/2015

NHB File ID: NHB15-3290 Applicant: Tony Weatherbee

Location: Tax Map(s)/Lot(s):
Acworth

Project Description: Existing structure is a concrete slab bridge. Proposed work consists of the following: place sandbag cofferdams, install toe walls and place riprap.

The NH Natural Heritage database has been checked for records of rare species and exemplary natural communities near the area mapped below. The species considered include those listed as Threatened or Endangered by either the state of New Hampshire or the federal government. We currently have no recorded occurrences for sensitive species near this project area.

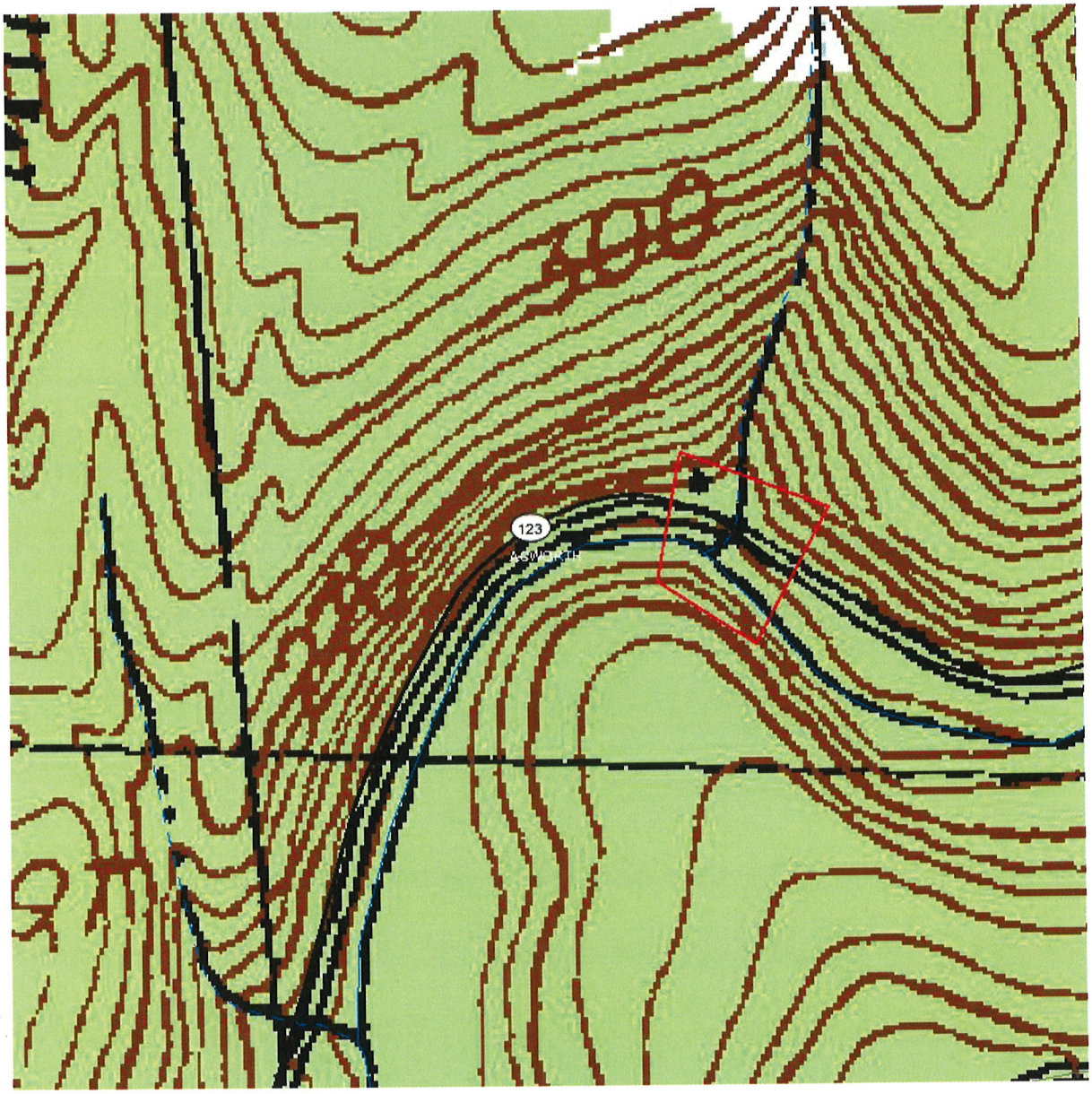
A negative result (no record in our database) does not mean that a sensitive species is not present. Our data can only tell you of known occurrences, based on information gathered by qualified biologists and reported to our office. However, many areas have never been surveyed, or have only been surveyed for certain species. An on-site survey would provide better information on what species and communities are indeed present.

This report is valid through 10/11/2016.

Department of Resources and Economic Development
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DRED/NHB
172 Pembroke Road
Concord NH 03301

MAP OF PROJECT BOUNDARIES FOR NHB FILE ID: NHB15-3290



Department of Resources and Economic Development
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DRED/NHB
172 Pembroke Road
Concord NH 03301

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 COMMERCIAL STREET, SUITE 300
CONCORD, NH 03301
PHONE: (603)223-2541 FAX: (603)223-0104
URL: www.fws.gov/newengland

Consultation Code: 05E1NE00-2016-SLI-0861
Event Code: 05E1NE00-2016-E-01139
Project Name: Acworth 104/063

January 27, 2016

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment

United States Department of Interior
Fish and Wildlife Service

Project name: Acworth 104/063

Official Species List

Provided by:

New England Ecological Services Field Office
70 COMMERCIAL STREET, SUITE 300
CONCORD, NH 03301
(603) 223-2541
http://www.fws.gov/newengland

Consultation Code: 05E1NE00-2016-SLI-0861
Event Code: 05E1NE00-2016-E-01139

Project Type: BRIDGE CONSTRUCTION / MAINTENANCE

Project Name: Acworth 104/063
Project Description: Rehabilitate the structures that carry Rte. 123A over Slater Slide and Dry Brook (104/063 & 104/064). The existing structures consist of two concrete slab bridges that have 14â-0â spans and are 26â-9â wide. The structures are connected by a retaining wall. The Cold River is flowing against this retaining wall and has begun to cause undermining. Proposed work consists of the following: place sandbag cofferdams, install toe walls and place riprap.

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.

United States Department of Interior
Fish and Wildlife Service

Project name: Acworth 104/063

Project Location Map:

Project Coordinates: MULTIPOLYGON (((-72.29745000600815 43.189589881213784, -72.29728907346725 43.189275032054894, -72.29697793722153 43.18936303353613, -72.29662388563156 43.189271120875, -72.29639053344727 43.18952339146458, -72.29697793722153 43.189685704548495, -72.29745000600815 43.189589881213784)))

Project Counties: Sullivan, NH

United States Department of Interior
Fish and Wildlife Service

Project name: Acworth 104/063

Endangered Species Act Species List

There are a total of 2 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Flowering Plants	**Status**	**Has Critical Habitat**	**Condition(s)**
Northeastern bulrush *(Scirpus ancistrochaetus)*	Endangered		
Mammals			
Northern long-eared Bat *(Myotis septentrionalis)*	Threatened		

United States Department of Interior
Fish and Wildlife Service

Project name: Acworth 104/063

Critical habitats that lie within your project area

There are no critical habitats within your project area.

MITIGATION REPORT

This project is maintenance of an existing structure and therefore mitigation is not required. At the October 21, 2015 Natural Resources Agency Meeting it was determined that no mitigation would be required.

NOTES ON CONFERENCE:

Finalization of September 16th Meeting Minutes

The meeting minutes were finalized. No comments were received.

Acworth 095/060, 40749, Non-Federal

Tony Weatherbee provided an overview of the project. The scope of the project is to rehab the bridge that carries NH Rte. 123A over Milliken Brook (095/060). The existing structure is a concrete slab bridge with a 14' span. Proposed work consists of installing toewalls and riprap to fix an undermined substructure.

Gino Infascelli asked if we could look into creating rock vanes upstream to divert the water away from the substructure to lessen the likelihood of scour in the future. T. Weatherbee said that there are permanent impacts proposed to accommodate shifting the channel into the center between the abutments. More permanent impacts will be added upstream to rearrange rocks into rock vanes that will direct water away from the abutments.

Mike Hicks asked where OHW would be on the section view and T. Weatherbee said that it will be below the top to the proposed toewall.

Carol Henderson said that this a wild brook trout stream.

M. Hicks asked if we would be doing any tree clearing and if we were there will be time of year restrictions due to potential bat habitat.

C. Henderson asked to reduce channel impacts as much as possible while incorporating a rock vane.

G. Infascelli asked if 4' of the channel would remain open and he said to leave the channel location change shown as permanent impact.

T. Weatherbee asked if there would be mitigation required. Usually maintenance to an existing structure does not require mitigation. G. Infascelli concurred it would not require mitigation.

T. Weatherbee asked C. Henderson if there were any time of year restrictions due to fish passage and she said that if water was maintained through a section of natural channel then there are no restrictions.

This project has not been previously discussed at a Monthly Natural Resource Agency Coordination Meeting.

Acworth (104/063 &105/064, 40750, Non-Federal

Tony Weatherbee provided an overview of the project. The scope of the project is to rehab the existing concrete slab bridges that carry NH Rte. 123A over Slater Slide and Dry Brook. The bridge has a retaining wall that connects the two structures that runs along the Cold River. The retaining wall is undermined and is cracked and spalling. Proposed work consists of facing the retaining wall with concrete and installing concrete toe walls and riprap.

To dewater the workzone a temporary channel is proposed to be dug through a sandbar on the inside of a curve on the Cold River. Material will be pushed off to the side to create that channel and upon project completion the material will be moved back to its original location. Some equipment would be required to dig the channel.

Gino Infascelli showed concern with the location of the bridge structures on the map and Matt Urban and T. Weatherbee clarified.

Mike Hicks mentioned EFH Habitat and said to coordinate with Mike Johnson.

G. Infascelli asked how long it would take to complete the project. T. Weatherbee said that it could take around a month if there are no unforeseen circumstances dealing with the water or weather. G. Infascelli asked if using larger sandbags would help make dewatering easier. G. Infascelli asked that a description about the equipment to be used be included with the application and in the construction sequence. He also said that the Designated River type needs to be identified.

C. Henderson asked what time of year the project would be done because there are salmon and trout in the river. T. Weatherbee said it would potentially be done in the summer.

G. Infascelli mentioned that if the structure was in the wrong location then a NHB report would have to be done for the proper location.

This project has not been previously discussed at a Monthly Natural Resource Agency Coordination Meeting.

Acworth (157/067), 40751, Non-Federal

Tony Weatherbee provided an overview of the project. The scope of the project is to rehab the existing concrete slab bridge that carries NH Rte. 123A over Honey Brook. The existing structure is has a 10'-0" max span and is 26'-10" wide. Proposed work consists of installing concrete underpinnings and removing a portion of bedrock from the channel that is directing water into the west abutment.

There would be some permanent impacts in front of the abutment that is not on ledge and for the location where ledge is to be removed.

Carol Henderson said that there are wild brook trout in the stream and that it is best to work in the summer or early fall.

Mark Hemmerlien asked about access and T. Weatherbee said that they will walk into the brook and they can place the riprap from the roadway.

This project has not been previously discussed at a Monthly Natural Resource Agency Coordination Meeting.

Stewartstown, 16312, X-0001(240)

Rebecca Martin provided a brief overview of the changes to the project from when it was presented in May of this year. The new proposal includes an expanded span from 50 feet to 80 feet due to constructability concerns. R. Martin explained that the group is hoping to gain a better

Project Acworth 40750

Wetland Application – NHDOT Cultural Resources Review

For the purpose of compliance with regulations of the National Historic Preservation Act, the Advisory Council on Historic Preservation's *Procedures for the Protection of Historic Properties* (36 CFR 800), the US Army Corps of Engineers' *Appendix C*, and/or state regulation RSA 227-C:9, *Directive for Cooperation in the Protection of Historic Resources*, the NHDOT Cultural Resources Program has reviewed the enclosed Standard Dredge and Fill Application for potential impacts to historic properties.

Above Ground Review

Known/approximate age of structures:
Concrete slab bridge (104/063);
Concrete slab bridge (104/064);

1914/1974 – Two Concrete slab bridges NH RT 123A) over Slater Slide & Drive Brook (near Cold River); connected by a retaining wall; due to the Cold River flowing against the retaining wall, it has begun to be undermined; proposed work includes sandbag cofferdam placement, installation of toe wall on retaining wall and wing wall; facing of the concrete retaining wall; and riprap placement In front of toe wall and along bank; described as relatively small impacts; during construction, alternating one lane traffic (instead of two lane) will be maintained

☒ No Potential to Cause Effect/No Concerns

☐ Concerns:

Below Ground Review

Recorded Archaeological site: ☐Yes ☒No

Nearest Recorded Archaeological Site Name & Number: 27-CH-0154 Alstead Masonic Block
☐Pre-Contact ☒Post-Contact

Distance from Project Area: 4.25 miles (6.775 km) southwest of project

Review of the 1860 Walling map and 1892 Hurd map revealed no structures in project vicinity

☒ No Potential to Cause Effect/No Concerns
Activities appear focused on previously impacted zones; To access gravel point bar, a mini excavator will be driven on top of 3' sandbags; proposed structure will match existing slope and alignment; bottoms of structures will not be changed; riprap will prevent erosion; for dewatering, a temporary channel will be dug through sandbar, and material pushed to side, then pushed back

☐ Concerns:

Reviewed by:

Sheila Charles

NHDOT Cultural Resources Staff

2/29/2016

3/1/2016

Date:

Figure 1: Structure over Slater Slide and retaining wall (9/2015).

Figure 2: Structure over Dry Brook and retaining wall (9/2015).

Figure 3: Cold River flowing into retaining wall (9/2015).

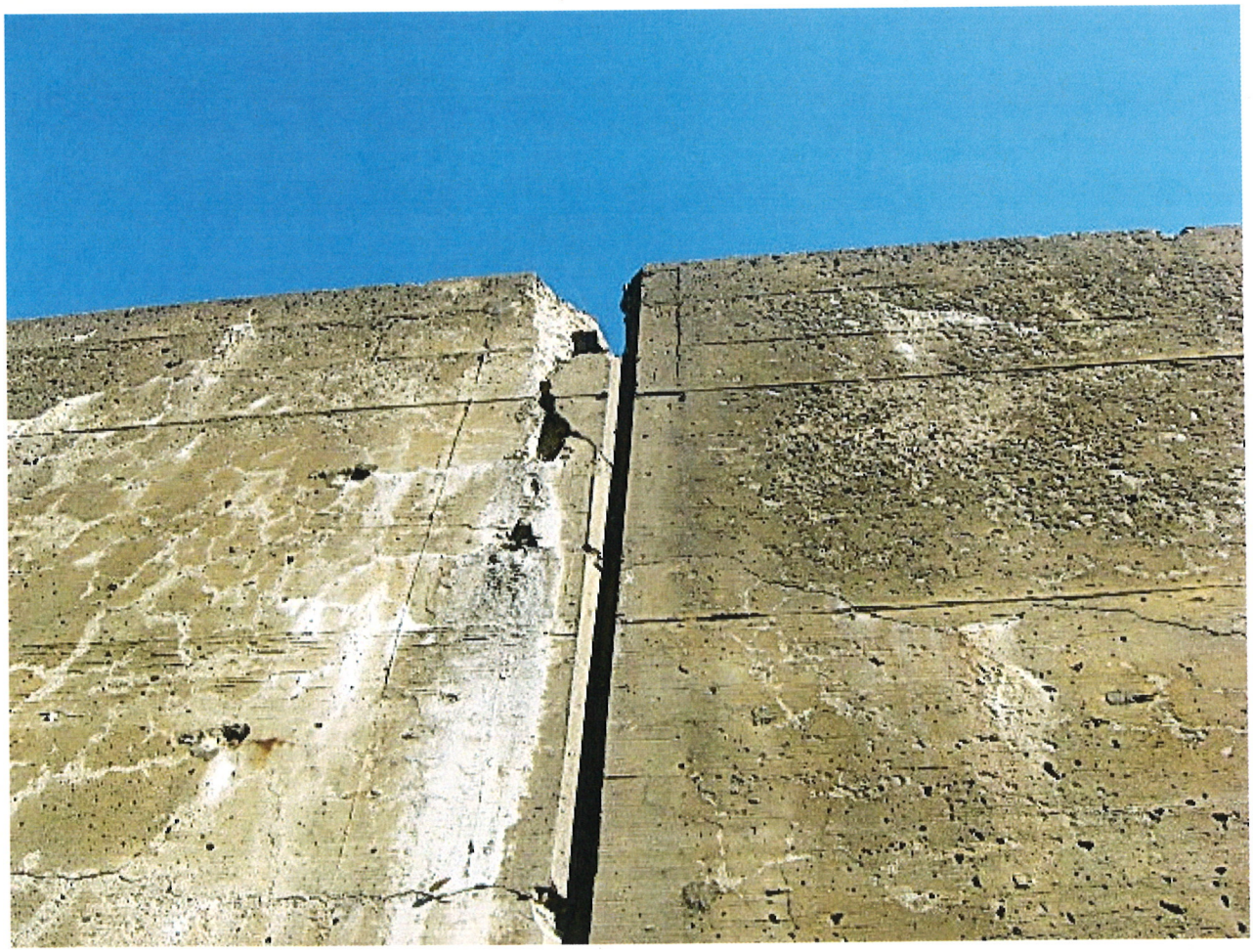


Figure 4: Retaining wall to be repaired (5/2008).

Figure 5: Rte. 123A over structure (6/2012).

Figure 6: Upstream of Slater Slide (9/2015).

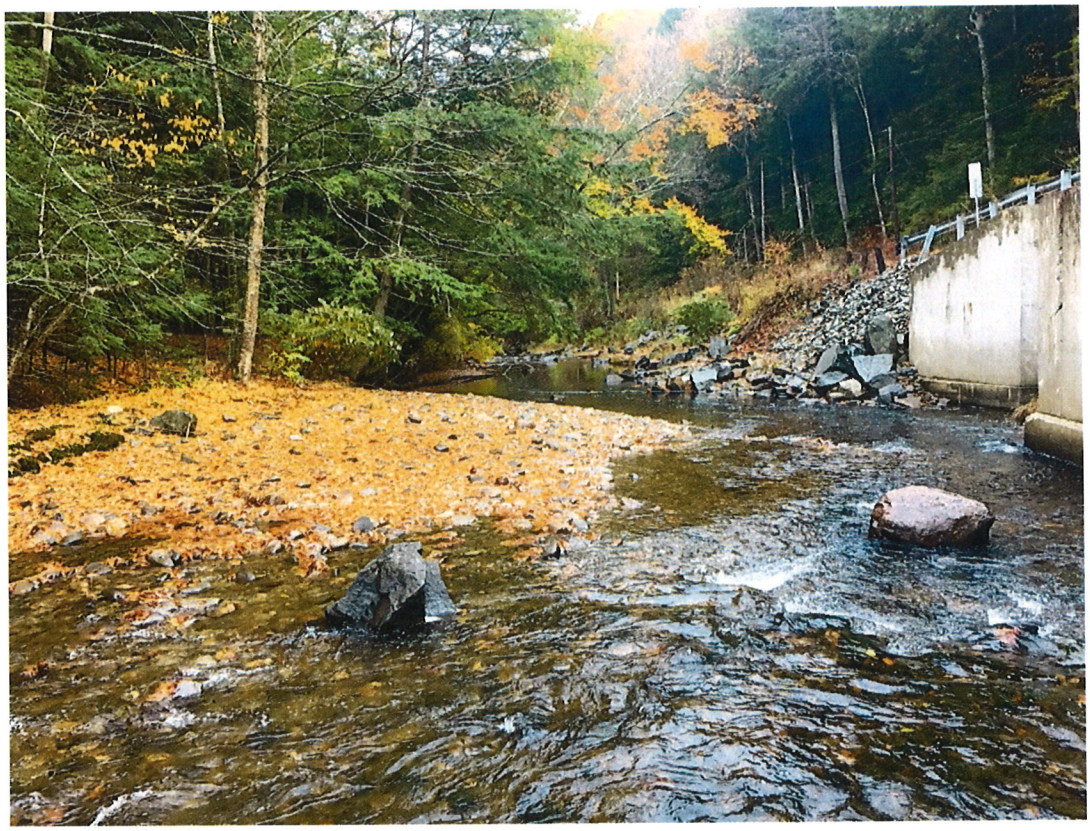
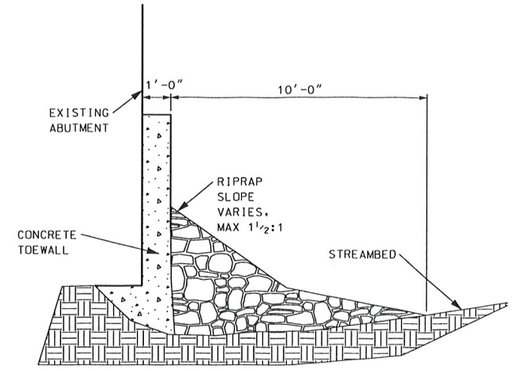


Figure 7: Gravel point bar where temporary water diversion will occur (10/2015).

Figure 8: Undermined retaining wall (10/2015).

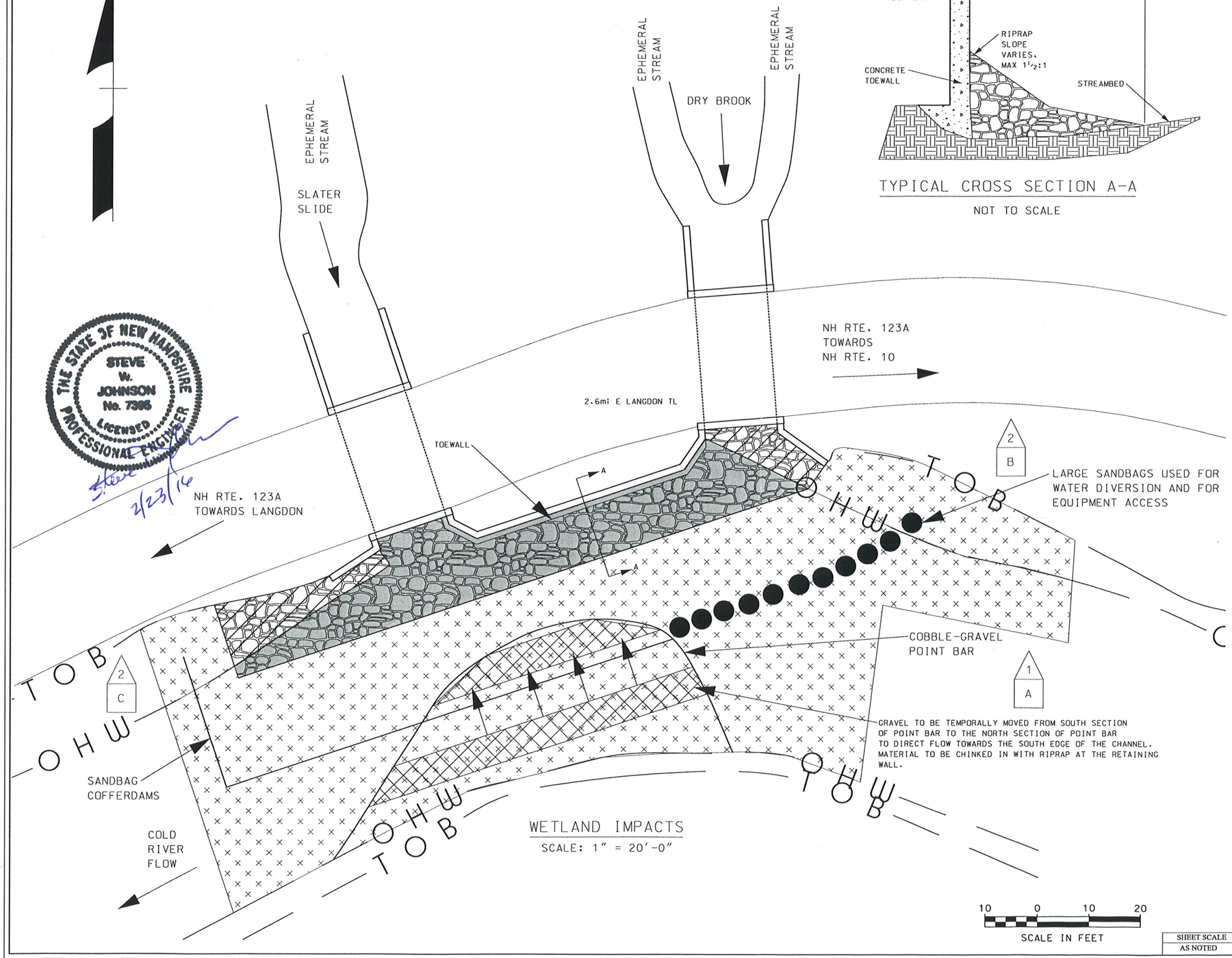
N

RIPRAP GRADATION
D15 < 19"
D50 < 24"
D100 < 42"



TYPICAL CROSS SECTION A-A

NOT TO SCALE



WETLAND IMPACTS

SCALE: 1" = 20'-0"

10 0 10 20

SCALE IN FEET

WETLAND IMPACT SUMMARY					
WETLAND NUMBER	WETLAND CLASSIFICATION	LOCATION	AREA		
			PERMANENT IMPACTS		TEMPORARY IMPACTS
			N.H.W.B. (NON-WETLAND) SF	N.H.W.B. & A.C.O.E. (WETLAND) SF	SF
1	R2UB1	A		1186	6002
2	BANK	B	130		589
2	BANK	C	222		217
		D			
		E			
		F			
		G			
		H			
		I			

PERMANENT IMPACTS: 1538 SF
TEMPORARY IMPACTS: 6808 SF

TOTAL IMPACTS: 8346 SF

WETLAND CLASSIFICATION CODES	
R2UB1	RIVERINE, LOWER PERENNIAL, UNCONSOLIDATED BOTTOM, COBBLE GRAVEL
BANK	

LEGEND

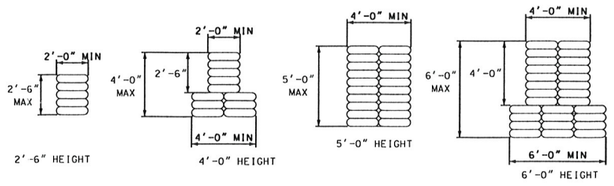
TYPE OF WETLAND IMPACT	SHADING/ HATCHING
NEW HAMPSHIRE WETLANDS BUREAU (PERMANENT NON-WETLAND)	
NEW HAMPSHIRE WETLANDS BUREAU & ARMY CORP OF ENGINEERS (PERMANENT WETLAND)	
TEMPORARY IMPACTS	

WETLAND DESIGNATION NUMBER

WETLAND IMPACT LOCATION

WETLAND MITIGATION AREA

MITIGATION



COFFERDAM DETAILS

NOT TO SCALE

WETLANDS DELINEATED BY M. URBAN ON 11/2015

THE STATE OF NEW HAMPSHIRE
STEVE W. JOHNSON
No. 7395
LICENSED PROFESSIONAL ENGINEER
2/23/16

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE MAINTENANCE

TOWN ACWORTH BRIDGE NO. 104/063 & 105/064 STATE PROJECT 40750

LOCATION NH RTE. 123A OVER SLATER SLIDE AND DRY BROOK

WETLAND IMPACTS

BRIDGE SHEET 1 OF 1

REVISIONS AFTER PROPOSAL	BY	DATE		BY	DATE
DESIGNED	ANW	10/19/15	CHECKED		
DRAWN	ANW	10/19/15	CHECKED		
QUANTITIES			CHECKED		
ISSUE DATE			FISCAL YEAR 2016	CREW 07	SHEET NO. 1
REV. DATE					TOTAL SHEETS 1

FILE NUMBER ACWORTH 104/063

SHEET SCALE AS NOTED